

## ABSTRACT OF THE DISCLOSURE

A spark gap for protecting an electrical circuit from voltage surges includes a first electrical circuit trace element having a first end face of defined thickness and length, and a second electrical circuit trace element having a second end face of defined thickness and length.

- 5 The first and second end faces are spaced from each other along their respective lengths to provide an air gap having a defined gap width. The gap width is of a size to provide a required spark gap breakdown voltage under design conditions of temperature, humidity and air pressure. The air gap also has a defined gap length corresponding to the length of the first and second end faces. The gap length is of a size that maximizes spark gap life over repeated discharge cycles
- 10 without introducing undesirable amounts of capacitance.